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09/09/2003

Thomas J. Connor

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EXAMINER

JOERGER, KAITLIN S

ART UNIT

PAPER NUMBER

3653

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/658,713
Filing Date: September 09, 2003
Appellant(s): CONNOR ET AL.

MAILED

DEC 21 2006

GROUP 3600

R. Ross Viguet
For Appellant

EXAMINER'S ANSWER

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

(8) Evidence Relied Upon

4,634,112	SILVERBERG	1-1987
01-181654	MIURA et al. (Japan)	7-1989

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 11, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by JP

01181654 A.

The JP '654 patent teaches a system for de-skewing media when using and automatic media feeder, the system comprising a registration guide, 101; and a registration tab, 13, to deflect an edge of the media toward the registration guide. The registration guide comprises an end of the platen, 100. The registration tab, 13, comprises a sloped surface, 13a, presented to an edge of media when the media moves by the registration tab toward the registration guide. The registration tab is movable to retract when the media is moved past the tab away from the guide and to remain extended when the media is move toward the guide, see figures 2a and 2b. The registration tab moves about a pivot, 13b. The tab is disposed in a lid portion of a host system, and has a triangular shape see figures 1 and 2, where the host system comprises an optical scanner, not shown, see attached abstract.

Claim Rejections - 35 USC § 103

Art Unit: 3653

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 01181654 A.

While the JP '654 patents does not specifically teach that the media comprises photographic media, it does teach that the media comprises sheet media. Sheet media is a broad recitation and therefore photographic media is encompassed in the recitation of sheet media.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use photographic media with the de-skewing system taught by the JP '654 patent if one desired to be able to photocopy and scan photographs.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 01181654 A in view of Silver berg, 4,634,112.

The JP '654 patent teaches rollers, 11, to provide translation of the media, he does not teach a feed belt. Nor does he teach a vacuum cooperating with a feed belt for translation of the media.

Silverberg, however, does teach the use of vacuum feed belts in a document feeder that translates documents to a registration position. It would have been obvious to one of ordinary skill in the art to use the vacuum feed belts of Silverberg in place of the rollers taught by the JP '654 reference is one desired to reduce initial skew of the sheets by using belts rather than rollers, and to prevent damaging the sheets by over-driving the sheets into the registration guide.

Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 01181654 A.

The JP '654 patent does not explicitly teach a method for de-skewing media when using an automatic media feeder, however, the apparatus of the JP '654 patent would obviously perform the method steps of claims 16-18 and 20.

Specifically the reference teaches a registration tab, 13, disposed to cooperate with a registration guide, 101, for de-skewing media; translating media in a first direction to pass a first edge by said registration tab; deflecting a first edge toward the registration guide; and continuing to apply translation force after first edge engage the registration guide to de-skew the media. The reference further teaches translating the media in a second direction to pass a second edge and a first edge over the registration tab, allowing the tab to retract when transporting in the second direction, and locking the tab on the extended position when the media is translated in the first direction, see figures 2a and 2b. The second edge does not pass over the registration tab when the media is translated in the first direction, see figure 2a.

While the JP '654 patent does not specifically teach a method for de-skewing media, it would have been obvious to one of ordinary skill in the art to perform the method steps of claims 16-20 when using the apparatus taught by the JP '654 patent in its usual and expected fashion as the patent teaches an automatic feeder with a de-skewing apparatus that performs all of the claimed method steps.

Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 01181654 A.

The JP '654 patent teaches a automatic media feeder with an input tray, 8; a media singulator, 6; a registration tab, 13, and a media translation mechanism to cause an edge of the media to engage the registration tab, 13, which causes the media to deflect toward a registration guide, 101. The registration tab, input tray, singulator, and translation mechanism are disposed in a lid portion of the feeder, see figure 1.

While the JP '654 patents does not specifically teach that the media comprises photographic media, it does teach that the media comprises sheet media. Sheet media is a broad recitation and therefore photographic media is encompassed in the recitation of sheet media.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use photographic media with the de-skewing system taught by the JP '654 patent if one desired to be able to photocopy and scan photographs.

(10) Response to Argument

Applicant argues that the registration tab, 13, of the JP '654 reference does not deflect an edge of said media when said media passes over the registration tab, as required by claim 1. Figure 2a shows the registration tab, 13, in the retracted position and figure 2b shows the registration tab, 13, in the deflecting position. When the registration tab is in the deflecting position the sloped surface, 13a, acts on the white sheet, 9, which then acts on the original sheet, 200, to deflect the original sheet downward onto the platen and into abutting alignment with the registration guide. The white sheet, 9, is an intermediate feature to facilitate the deflection of the

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original by the registration tab, 13. Therefore, the registration tab does ultimately deflect the original. Applicant argues that the JP '654 reference does not teach that the sheet 9 deflects the original downward onto the platen and that the '654 patent does not teach that the media passes over the registration tab. The examiner contends that figure 2b shows that as the registration tab serves to deflect or push the trailing edge of the original down so that it can abut registration guide 101 as the sheet passes over the registration tab, 13. The applicant further argues that the reference does not teach presenting a sloped surface to the edge of the media, but that feature is clearly shown in figure 2b. The applicant argues that because the registration tab 13 is covered by white sheet, 9, the tab never presents a sloped surface. Once again, the examiner points out that the white sheet is an intermediate feature to facilitate the deflections of the original by the tab, 13. The applicant's argument is analogous to one arguing that if a sheet feeding roller was covered by a rubber material, then the roller, because the rubber material is between the sheet and the roller then roller, is not actually acting on the sheet. This argument holds no weight.

Applicant further argues that the reference never teaches that the original moves past the registration tab. However, there is no requirement that the entire original moves past the pressure plate, and the figures clearly show that part of the original is moved past that registration tab. Therefore, the JP '654 reference does teach this feature.

The applicant further argues that the JP '654 patent does not meet the limitation that the "registration tab is not movable independent of moving a component of a host system".

However, the examiner contends that the applicant's stance is in error. The registration tab 13, is disposed on drive shaft 13b which is moved by a motor. The tab is not freely disposed on the

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drive shaft and only moves when moved by the motor of the host system. Therefore, the JP '654 patent does teach the claimed limitation.

The applicant further argues that the JP '654 patent does not teach that the registration tab has a smooth outer surface to slidingly direct the media. The examiner argues that the white sheet, 9, serves as an extension of the surface of the registration tab, 13, and therefore is the smooth outer surface of the registration tab. Therefore, the JP '654 patent teaches this feature as well. In addition, page 4, lines 15+ of the translation of JP '654 clearly teach a smooth outer surface of the tab, 13.

The applicant further argues that the JP '654 does not perform the step of "continuing to apply a translation force to said media after at least a portion of said first edge engages said registration guide, the examiner disagrees and contends that the JP '654 does perform this step. The abstract teaches that the sheet is transported to the platen and then reversely fed into the registration guide 101, and that the registration tab, 13, prevents the document from be fed through and over top of the butting plate by deflecting the edge of the original 200. Therefore, if the registration tab, 13, were not used the original would be reversely fed over and beyond the registration guide, 101, indicating a continued application of translation force after the original reaches the front of the registration guide. The registration tab, 13, in cooperation with the registration guide, 101, prevents the original from being reversely translated over the guide by deflecting the edge of the original into abutment with the registration guide, and therefore is the reason that the document is not further transported by the continued translation force.

The applicant further argues that the JP '654 patent is not suitable for feeding photographic sheets. However, the examiner contends that the patent does not specifically

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exclude photographic sheets from the "sheet media". Since photographic sheets are a form a sheet media, the JP '654 patent does teach the feeding of photographic sheets.

The applicant further argues that the JP '654 patent does not teach the limitation that a translation force is applied to the media after at least a portion of the first edge engage the registration guide. However, page 5, lines 1+ of the translation of the JP '654 patent clearly teach this features.

The applicant further argues that the JP '654 patent does not teach that the tab is cast as a monolithic member of the movable lid portion. The examiner contends that the patent does teach this, in the sense that a monolithic member is a member that acts as a single powerful force to deflect the sheet media.


(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Kaitlin Joerger



Conferees:

Patrick Mackey



Dave Bollinger



PATRICK MACKEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Application/Control Number: 10/658,713
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PTO 07-1082

Japanese Kokai Patent Application
No. Hei 1[1989]-181654

ORIGINAL TRANSPORT DEVICE

Kazunobu Miura and Mitsuru Nagoshi

UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. DECEMBER 2006
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JAPANESE PATENT OFFICE
PATENT JOURNAL (A)
KOKAI PATENT APPLICATION NO. HEI 1[1989]-181654

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Sequence Nos. for Office Use:	B-6943-3F E-7716-3F 7539-3F 8306-2H 8607-2H
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No. of Claims:	1 (Total of 5 pages)
Examination Request:	Not filed

ORIGINAL TRANSPORT DEVICE

[Genko hanso sochi]

Inventors:	Kazunobu Miura Mitsuru Nagoshi
Applicant:	Konica Corporation

[There are no amendments to this patent.]

Claim

In an original transport device equipped with a transport part that loads the original between the platen glass surface and the original presser sheet of a copier and that can feed said

original backward to butt against a butting plate, an original transport device characterized in having a sheet pressing means that can open and close the gap between the aforementioned sheet and the butting plate.

Detailed explanation of the invention

Industrial field of application

This invention relates to an improved original transport device that can automatically feed originals onto the platen glass of a copier.

Background of the invention

Generally this type of original transport device would be provided with a transport part whereby originals are pressed onto the platen glass surface with a white endless belt above the platen glass of a copier and the originals are transported by movement of said belt. That is, the transport part presses the original over the entire surface of the platen glass with the endless belt and also transports it while creating friction at appropriate spots on the original surface due to slight looseness. For this reason,

- (1) A space in the thickness orientation sufficient for the belt to turn is required, making the overall height of the device unit higher and making it bigger.
- (2) The pressing force drops over time due to fatigue and degradation of the belt, or problems caused by insufficient elasticity readily occur, and serviceability is poor.

Other problems also exist.

So the present inventors previously proposed an original transport device provided with a white sheet following the platen glass surface in the device unit installed on the copier, that rubs an original transport roller against the aforementioned platen glass surface through perforations furnished at appropriate locations in said sheet and that can press and transport the original without using an endless belt.

With this original transport device, originals are loaded between the platen glass surface and the original presser sheet by the transport part and said originals are fed backward to butt against a butting plate and are exposed. However, when the originals are fed backward and stopped by the butting plate, and when there is a gap between the white sheet and the butting plate, there is the risk of a problem occurring where the original slips over the butting plate and returns to the paper feed side.

Objective of the invention

In consideration of the aforementioned points, the objective of this invention is to provide an original transport device in which original can stop precisely without slipping over the butting plate.

Constitution of the invention

In order to achieve the aforementioned objective, this invention uses a constitution characterized in that, in an original transport device equipped with a transport part that loads the original between the platen glass surface and the original presser sheet of a copier and that can feed said original backward to butt against a butting plate, there is provided a sheet pressing means that can open and close the gap between the aforementioned sheet and the butting plate.

Application example

Below, this invention is explained with an application example shown in the accompanying figures.

Figure 1 is a cross section of an original transport device of the present invention, Figure 2 is a cross section of the sheet pressing means, and Figure 3 is a front view of the same. In the figures, (1) is the device unit. Said unit (1) is constituted from three major parts – paper feed part (2), transport part (3) and paper discharge part (4) – mounted on platen glass (100) of a copier (not shown).

Paper feed part (2) is equipped with a separating mechanism (7) composed of an original pressing piece (5) and a paper feed roller (6). Originals (200) stacked on stacker (8) furnished at the top part of unit (1) are separated one sheet at a time from the very bottom so that they can be fed onto aforementioned platen glass (100). Platen glass (100) has a smooth top surface (S) over which original (200) can slide, and a butting plate (101) is provided on the top surface toward paper feed part (2).

Transport part (3) transports originals (200) onto platen glass (100); it is equipped with a white sheet (9) and an original transport roller (11) as main components. White sheet (9) is for pressing original (200) during exposure. It is made of a plastic material rich in solid lubricating ability (in this application example, PET = polyethylene terephthalate) and covers the entire surface of top surface (S) of platen glass (100). Said end (9a) of white sheet (9) closest to paper feed part (2) is connected to a twisted coil spring (12), described below, and the end toward the paper discharge part is connected to fixed part (1a) of unit (1). 3 perforations (10) are also furnished at appropriate locations along the center line of white sheet (9) so that the extremity [i.e., surface] of original transport roller (11) sticks out. Said perforations (10) are constituted to be

tapered toward the direction of transport so as not to catch the ends of originals (200) during transport, and are in the form of shogi [Japanese chess] pieces.

Original transport roller (11) is for transporting original (200) on platen glass (100). It turns while pressing original (200) through perforations (10) to be able to transport using friction. A total of 3 are furnished on the reverse side of sheet (9) corresponding to perforations (10). The surfaces of said rollers (11) are covered with an elastic material with a large [amount of] friction (for example, rubber or plastic sponge material), the extremities of which touch surface (S) of platen glass (100) through perforations (10). Original transport rollers (11) can also turn forward or backward to fine tune the final position of original (200) during exposure.

Twisted coil spring (12) furnished at end (9a) of aforementioned white sheet (9) keeps white sheet (9) tight against platen glass (100) during original exposure and is raised from glass (100) during transport to make transport of the original smooth. As long as no pressure is applied to sheet (9), sheet (9) is pulled so that it is lifted above platen glass (100). (13) is a pressing means. Said pressing means (13) with pressing plate (13a) is the same width as sheet (9) to be able to press aforementioned white sheet (9) toward butting plate (101) via pressing plate drive shaft (13b), and furthermore is made of a [illegible] member that has a smooth convexly curved surface on the side that contacts sheet (9). (14) is a torque limiter. Said torque limiter (14) is to maintain a contact state and keep unreasonable load from being applied when pressing plate (13a) touches butting plate (101) or fixed part (1b). Said torque limiter (14) is placed at an appropriate location (in Figure 3, the gear end part of drive shaft (13b)) in the drive transmission system that drives pressing plate drive shaft (13b) and motor (15).

(16) is a paper discharge roller. Said paper discharge roller (16) is furnished in paper discharge part (4) of unit (1) to be able to feed originals (200) out into paper discharge tray (17). (18) is a fixed projection. Said projection (18) is furnished at the end on the paper discharge side of the underside of the paper discharge tray so limit the raised position when white sheet (9) is pulled up.

Next, the function of this invention is explained.

First, originals (200) are stacked on stacker (8) furnished at the top part of unit (1) of the original transport device and their ends are placed at separating mechanism (7) of paper feed part (2). Here, originals (200) are separated one sheet at a time from the very bottom by the pressing force of original pressing piece (5) and friction with paper feed roller (6) and are fed toward transport part (3).

Originals (200) are fed between platen glass (100) of the copier and white sheet (9) by transport part (3), and are transported by original transport rollers (11) through perforations (10) in white sheet (9). At this time, during transport, pressing plate drive shaft (13b) and motor (15) rotate forward and are touching fixed part (1b) of unit (1), so end (9a) of white sheet (9) is pulled

by twisted coil spring (13) [sic] and is raised above platen glass (100). Therefore, originals (200) do not touch white sheet (9). On the other hand, during exposure, originals (200) are fed backward once and stop touching butting plate (101), but at this time, pressing plate (13a) and motor (15) rotate backward and pressing means (13) is pressing white sheet (9), so originals (200) will not skip over butting plate (101) and return toward paper feed part (2) because of white sheet (9) touching butting plate (101). In addition, because originals (200) are pressed tightly against platen glass (100) by white sheet (9), a satisfactory exposure state is realized. While pressing plate (13a) is touching fixed part (1b) of unit (1) and butting plate (101), torque limiter (14) is operating and torque load above a constant [value] is not applied. When exposure is completed, originals (200) are discharged by paper discharge roller (16) of paper discharge part (4) and are stacked in order in paper discharge tray (17).

Effects of the invention

This invention, as above, is characterized in that, in an original transport device equipped with a transport part that loads the original between the platen glass surface and the original presser sheet of a copier and that can feed said original backward to butt against a butting plate, there is provided a sheet pressing means that can open and close the gap between the aforementioned sheet and the butting plate. Thus the gap between the sheet and the butting plate can be closed completely during original transport and there is absolutely no risk of the original skipping over the butting plate and returning toward the paper feed part. Furthermore, by constituting the sheet pressing means with a pressing plate of the same width as the sheet and a pressing plate drive shaft that can turn said pressing plate forward and backward, the gap between the sheet and the butting plate can be opened and closed just by turning the pressing plate drive shaft forward and backward, and in addition, uniform pressing force can be applied to the sheet to produce surface tension. For this reason, not only is it possible to prevent problems that occur during original transport, but other effects include the fact that during exposure, originals are pressed onto the platen glass with uniform force so that improved copy image quality can be realized.

Brief description of the figures

Figure 1 is a cross section of an original transport device of the present invention. Figure 2 is a side view showing the end of the white sheet and the sheet pressing means. Figure 3 is a front view of the pressing plate and the drive system. Figure 4 is a front view showing the relationship between the white sheet and the original transport rollers.

- 1 Unit
- 2 Paper feed part
- 3 Transport part

- 4 Paper discharge part
- 9 White sheet (original presser sheet)
- 10 Perforation
- 11 Original transport roller
- 13 Pressing means
- 13a Pressing plate
- 13b Pressing plate drive shaft
- 14 Torque limiter
- 15 Motor
- 100 Platen glass
- 101 Butting plate
- 200 Original

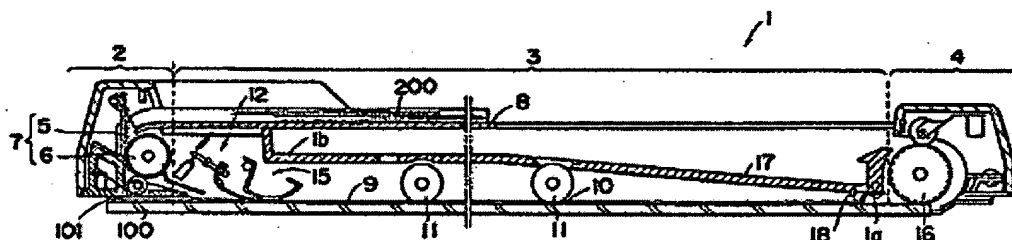


Figure 1

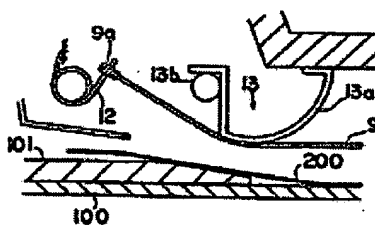


Figure 2 (a)

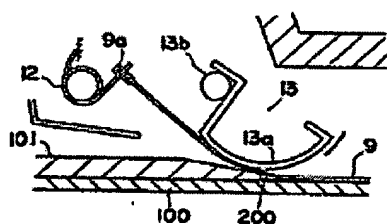


Figure 2 (b)

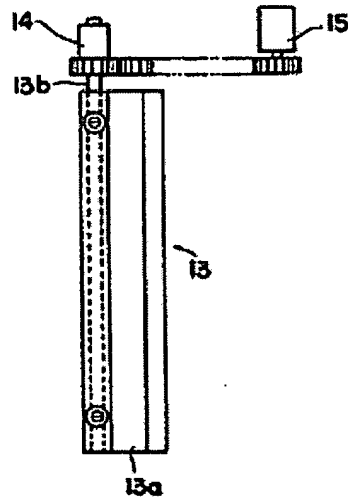


Figure 3

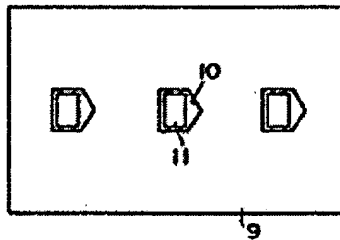


Figure 4